TRADITIONAL PROCESSING MEETS ISLANDORA

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Archives
THE CALTECH ARCHIVES

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Why Islandora? Advantages

- Open source
- Fedora Commons back-end – “future-oriented”
- Drupal CMS front-end included
- Can be hosted or locally deployed
- Active open source development community; commercial support available
- Highly customizable
- Many “plug-in” modules available to add functionality
- Good support for preservation activities (checksums, preservation metadata, transfer to DPN)

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Disadvantages

- Drupal CMS front end included
  - Requires Drupal expertise; new releases of Drupal are not compatible
- Requires significant level of technical support for local deployment
  - Software developer at 50% time for initial migration, 75% time for another year for later local customization activities
- Steep learning curve for both technical staff and archives staff
  - Technology stack (Java, Fedora, Solr, Drupal) requires broad technical expertise
  - Some parts of Islandora staff interface are less-than-intuitive:
    - Metadata entry forms in particular are problematic
    - Drupal interface “requires getting used to”

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Initial Islandora Implementation

- Decision to go with Islandora for DAMS was made in late 2012
- Initially we used out-of-the-box Islandora, except for custom theming, custom metadata schema (full MODS), and metadata input forms
- Implementation began in 2013
  - Migration of a legacy database (the ImageArchives)
  - Export and transformation of legacy metadata done locally
  - Islandora implementation and data loading outsourced to discoverygarden.ca

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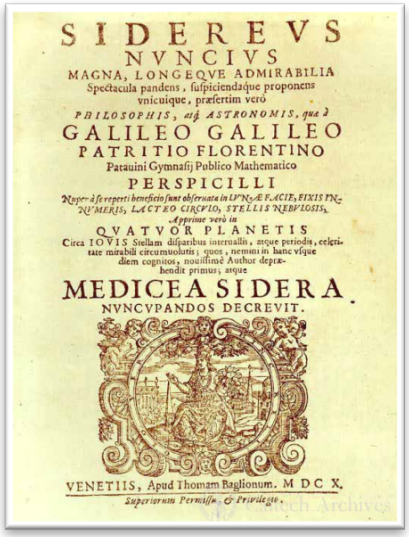
The image archives

- A collection of over 10,000 images representing Caltech's history, and the people who have made and continue to make it

Fine arts



Rare books

Scientific artifacts

- Digitization project started in 1993
- Migrated from FileMakePro database to Islandora in 2013
- Collection on OAC linked to Caltech server

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Image Archives Demo

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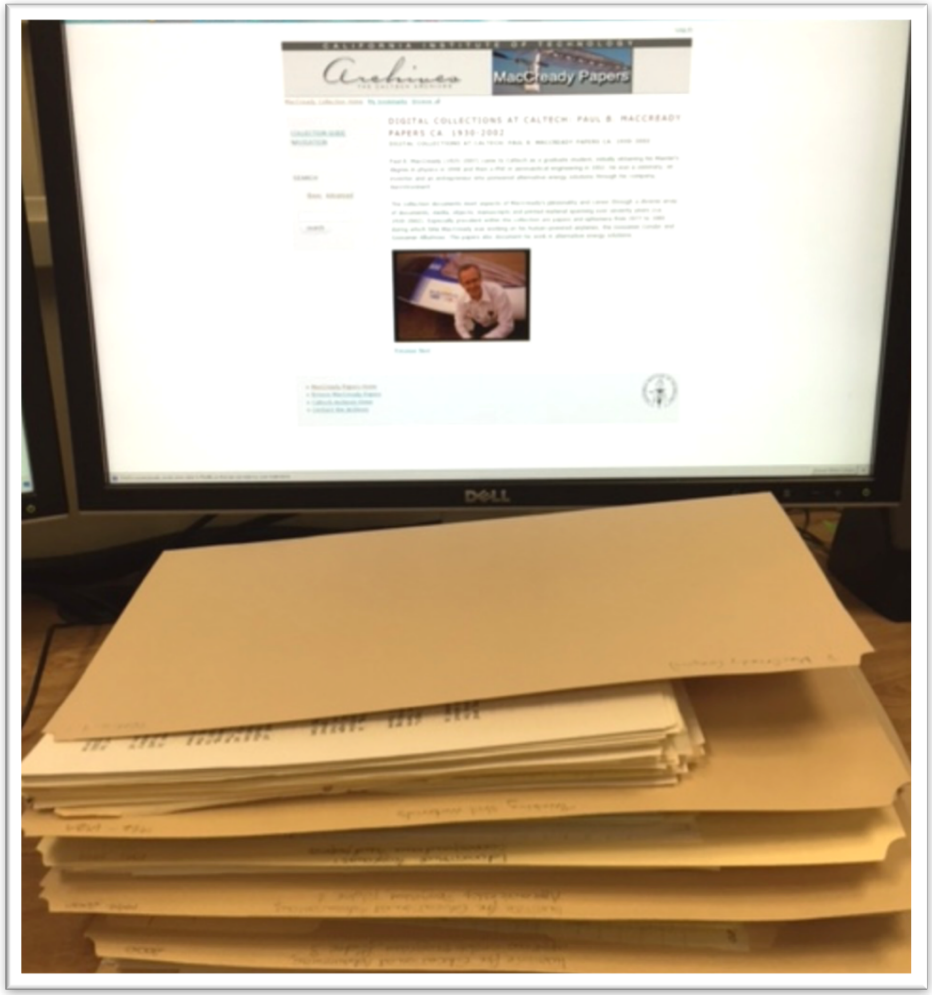
Integrating Traditional Archival Processing into Digitization Project



- In this talk we are addressing the digitization of non-digital collections
- Evolution, not revolution
- Attempt to take advantage of efficiencies in established processes
- Tweak them to create the best possible experience for users of digitized content

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Paul B. MacCready (1925-2007)

- Caltech MS physics 1948,
  PhD aeronautical engineering 1952
- A visionary, inventor and entrepreneur,
  pioneered alternative energy solutions
  with his company AeroVironment
- Created solar-powered aircraft,
  solar-powered and electric cars,
  even a flying pterosaurus
- Designed human-powered aircraft
- First Kremer prize, 1977: Gossamer Condor
  flew one-mile figure eight, clearing ten-feet pole
- Second Kremer prize, 1979: Gossamer Albatross
  flew from England to France

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Collection overview

- Donated to the Caltech Archives in 2003
- Processing completed in 2014
- Measures 57 linear feet, comprising 112 archival boxes
- Organized in 7 Series

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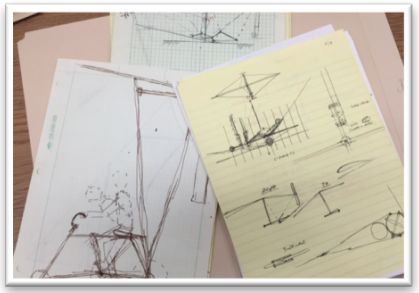
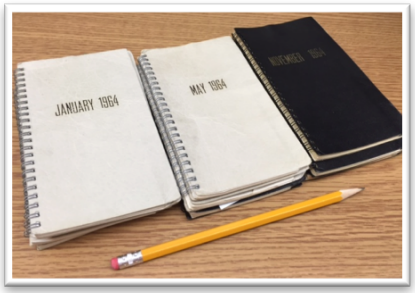
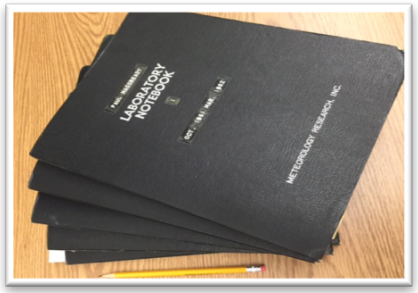
Collection overview - Series



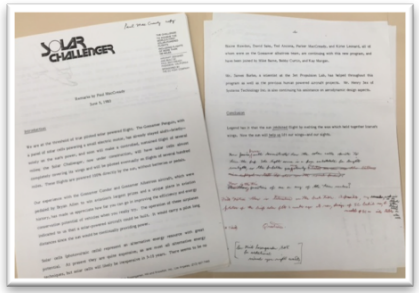
1 AeroVironment



2 Planners and Diaries



3 Notebooks



4 Writing and Talks

5 Biographical and Correspondence

6 Miscellaneous Materials

7 Audio-Visual

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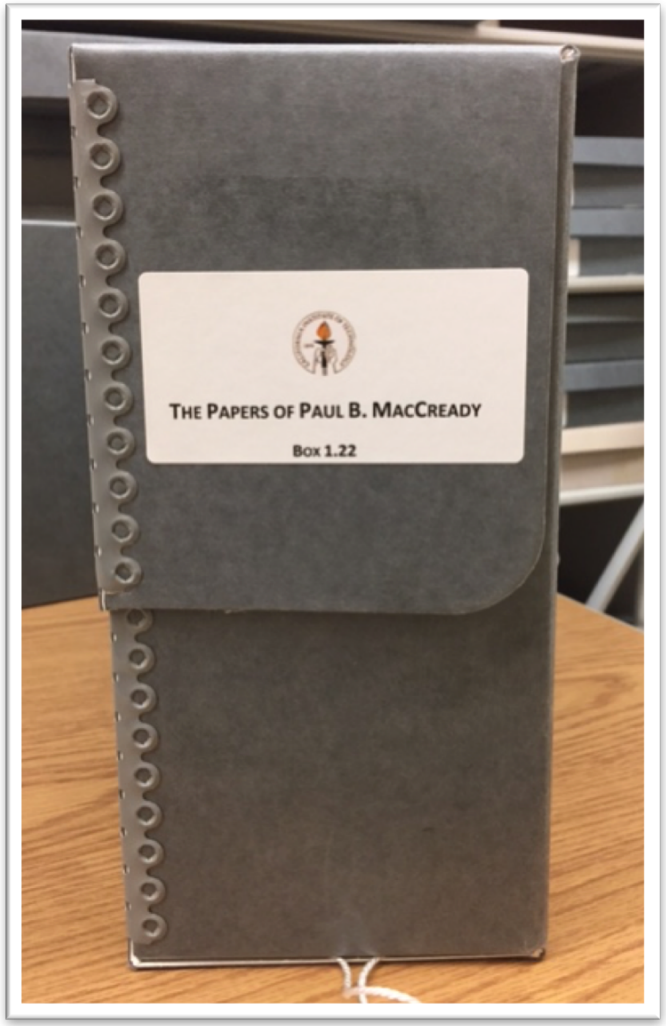
Collection overview



- The collection spans 1930 to 2002, documenting most aspects of MacCready's personality and career through a diverse array of documents, media, objects, manuscripts and printed materials.
- Especially prevalent are papers and ephemera from 1977 to 1985, when he was working on human-powered airplanes.
- The papers also document his work in alternative energy solutions.

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Materials and digitization

54,000 Papers - 300ppi TIFF 2,000 Photos - 600ppi TIFF	• In-House digitization by DocuServe – Access and Fulfillment Services at Caltech Library
130 VHS – mp4 10 audiocassettes – wav	• Digitized by USC Shoah Foundation
8 16mm reels – mov (uncompressed V210)	• Digitized by the California Audio Visual Preservation Project (CAVPP)
5,600 Slides – 600ppi TIFF 14 Oversize drawings	• Digitized by John Sullivan, Imaging Services, The Huntington.
2 Artifacts	• Caltech Graphic Resources Photographer

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MacCready → Local Innovation

- Naming scheme for digitized files reflecting container list structure at folder and page level
- Navigation via finding aid: automated links from container list to digital objects in Islandora
- Implementation of a paging display that preserves context within folder objects

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Innovation 1: From arrangement to filenames

PBM_7_23_5_0001.tif

Collection_Series_Box_Folder_File

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Innovation 1: From arrangement to filenames

- Only Series, Box and Folder numbers are used, not Subseries
- Box numbering restarts from 1 in each Series, allowing digitization to begin before processing of Series was completed
- Files get a 4-digit suffix: PBM_4_2_1_0023.tif
- Descriptive metadata is drawn from finding aid at folder level, and metadata files are numbered the same way as digital object files.

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Automated metadata generation from Finding Aid

- Folder level information created as part of traditional processing
- We can use this information to automatically generate MODS metadata for Islandora, at the folder level.
- Start with container list in EAD form of finding aid
- Transform with various tools (OpenRefine, XSLT, perl scripts) to produce DLF/Aquifer compliant MODS/XML files, one per folder
- Key for later ingest: MODS files are named using Series/Box/Folder convention, e.g. PBM_7_23_5.xml

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MODS/XML example

<?xml version="1.0" encoding="UTF-8"?>
<mods xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.loc.gov/mods/v3
http://www.loc.gov/standards/mods/v3/mods-3-6.xsd"
xmlns="http://www.loc.gov/mods/v3" xmlns:mods="http://www.loc.gov/mods/v3"
xmlns:xlink="http://www.w3.org/1999/xlink">
<titleInfo><title>AeroVironment Vehicle Projects 1977 - 1991</title></titleInfo>
<typeOfResource>moving image</typeOfResource>
<originInfo><dateIssued keyDate="yes">1991
June</dateIssued></originInfo><language><languageTerm authority="iso639-2b"
type="code">eng</languageTerm></language>
<abstract>1991 June. Part of: Paul B. MacCready Papers ca. 1930-2002. Series 7:
Audio-Visual material, Subseries 3: Videos and Audio; Box 23, Folder 5</abstract>
<identifier type="local">PBM_7_23_5</identifier>
<physicalDescription>
<form authority="marcform">videorecording</form>
<extent>VHS. 8 min. 32 sec.</extent>
<digitalOrigin>digitized other analog</digitalOrigin>
</physicalDescription>
etc. ….

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Automated ingest of metadata and digital objects into Islandora

- Islandora has batch ingest capabilities
- Congruity of file names for digital objects and metadata files allows creation of scripts that match them up and feed them to Islandora together.

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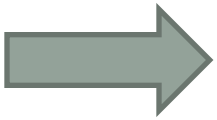
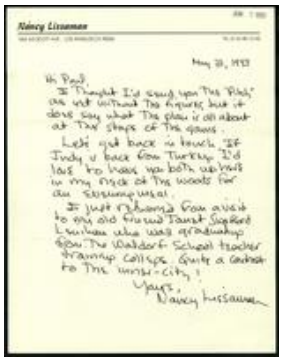
Innovation 2: Automated Linking From Finding Aid

- We started with UCLA's work on the Islandora Manuscript Solution Pack
- EAD Finding Aid is loaded into Islandora to provide Collection Guide navigation
- We create links on-the-fly from the EAD container list to objects in the collection





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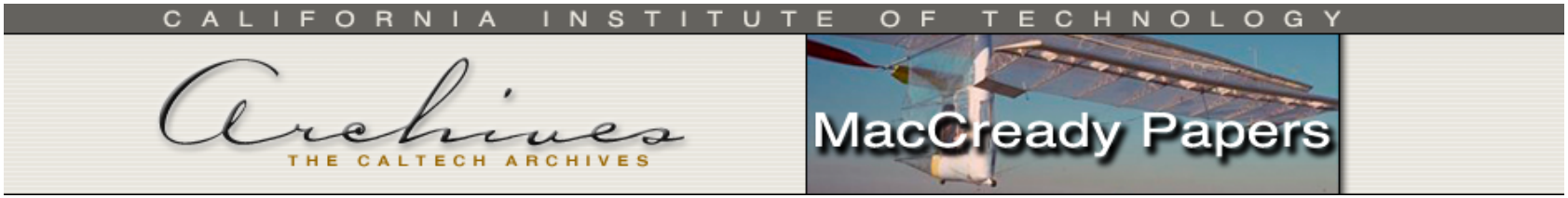
MacCready Collection Demo



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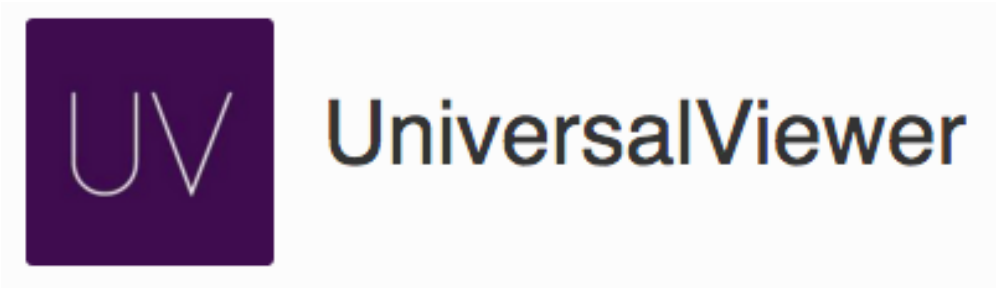
Innovation 3: IIIF and the UniversalViewer

- IIIF (International Image Interoperability Framework): http://iiif.io
- A community driven image framework with well defined APIs for making the world's image repositories interoperable and accessible
- UniversalViewer: Open source project, backed by British Library, implementing IIIF



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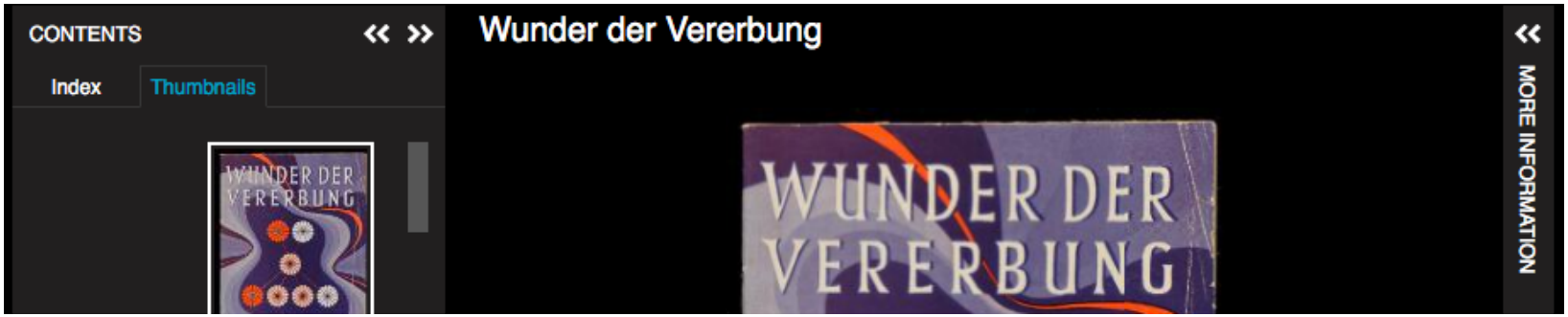
UniversalViewer Demo



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What Have We Accomplished?

- Retained advantages of traditional processing workflow
- Gained efficiencies in digitization and ingestion workflow
- Improved user experience
  - Navigation via finding aid
  - Display (once UniversalViewer is implemented)

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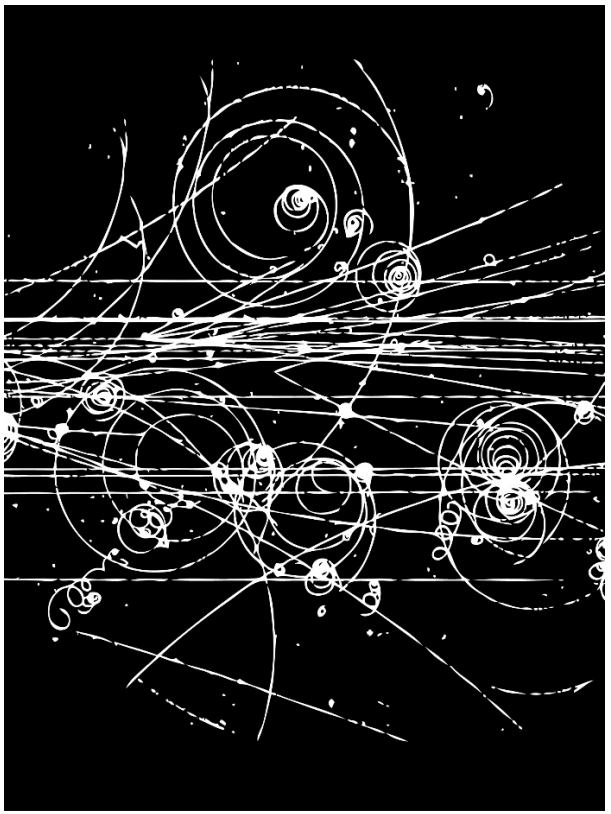
Future Directions

Donald A Glaser Collection - Nobel Prize winner in Physics (underway)

Materials from various already-processed collections, as an ongoing effort



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Acknowledgements

- MacCready family
- Caltech Development & Institute Relations
- Caltech Library DocuServe
- USC Shoah Foundation
- John Sullivan, Imaging Services, The Huntington
- California Audiovisual Preservation Project (CAVPP)
- Jim Staub, Caltech Graphic Resources
- Kristen Abraham and Bianca Rios

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